

## Under Review Notification

**Raised By:** Marc Bellavance  
**Date:** 17.12.05

**Product #:** D119-796-031/-033/-035 and D119-1014-02X/-12X  
**Product Name:** Landing Gear Kits

| Part Number<br>(D-Part and 9-Digit)<br>(eg. D3535-11)<br>(eg. D3535-25)<br>(eg. D206-642-143)<br>(eg. RBEM324U3010101-1) | Drawing or Document<br>& <u>Current</u> Affected Revision<br>for each part listed | "Y" or "N" Required for Each Part<br>Do not leave blank |                          |                  |                 |               |                  |   | Reserved ECN Log Number | Instructions Relevant to Each Part<br>(including whether CHG #'s will be affected) |
|--|---|---|--------------------------|------------------|-----------------|---------------|------------------|---|-------------------------|--|
|  |   | HOLD SHIPMENT   | Red Tag/Quarantine Stock | Advise Customers | Stop Production | Re-Work Stock | IPF Under Review | Product Specifications Under Review ("Bluefiles") |                         |  |
| D119-796-031   | D119-796-031 Rev. A   | N   | Y                        | N                | N               | Y             | Y                | Y   | 17-783                  | See below. Will go up one CHG#.  |
| D119-796-033   | D119-796-033 Rev. A   | N   | Y                        | N                | N               | Y             | Y                | Y   | 17-783                  | See below. Will go up one CHG#.  |
| D119-796-035   | D119-796-035 Rev. A   | N   | Y                        | N                | N               | Y             | Y                | Y   | 17-783                  | See below. Will go up one CHG#.  |
| D119-1014-021  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-784</del>       | See below. Will go up one CHG#.  |
| D119-1014-023  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-785</del>       | See below. Will go up one CHG#.  |
| D119-1014-025  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-786</del>       | See below. Will go up one CHG#.  |
| D119-1014-121  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-786</del>       | See below. Will go up one CHG#.  |
| D119-1014-123  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-786</del>       | See below. Will go up one CHG#.  |
| D119-1014-125  | D119-1014 Rev. A  | N   | Y                        | N                | N               | Y             | Y                | Y   | <del>17-786</del>       | See below. Will go up one CHG#.  |
|  |   |   |                          |                  |                 |               |                  |   |                         |  |
|  |   |   |                          |                  |                 |               |                  |   |                         |  |
|  |   |   |                          |                  |                 |               |                  |   |                         |  |

### Description of Issue:

IIN-D119-796 Rev.F and ICA-D119-796 Rev.4 were updated to include D119-796-015 Kit (ref. P/N D5449-1 Float Saddle Washer) however, drawings D119-796-031/-033/-035 have not been updated. Currently, the BoMs for D119-796-031/-033/-035 Landing Gear Kits are based on drawings D119-796-031/-033/-035. As a result, Landing Gear Kit P/Ns D119-796-031/-033/-035 are assembled and shipped without D5449-1 which is mandatory (ref. SB16-1 and DSI 9756).

OK to ship Landing Gear Kit P/Ns D119-796-031/-033/-035 with Engineering sign offs on W/O to include qty(4) D5449-1 Float Saddle Washers <sup>796</sup> A-10-B-100E.

Landing Gear Kit P/Ns D119-1014-021/-023/-025/-121/-123/-125 are also affected: each of these Landing Gear Kits should include D119-~~646~~-015 Float Protection Kit.

OK to ship Landing Gear Kit P/Ns D119-1014-021/-023/-025/-121/-123/-125 with Engineering sign offs on W/O to include qty(1) D119-~~646~~-015 Float Protection Kit. <sup>796</sup>

Ref. NCR17-6698.

### Distribution:

|                            |                              |                      |                                      |
|----------------------------|------------------------------|----------------------|--------------------------------------|
| VP Operations              | Chief Engineer               | Production Engineers | Product Manager - Solutions Provider |
| Director of Operations     | Engineering Project Managers | Production Planners  |                                      |
| Director Quality Assurance | Engineering Clerk            | Purchasing Manager   |                                      |
| Director of Engineering    | Customer Support Manager     | Technical Support    |                                      |

**REFERENCE**

## **DART SERVICE BULLETIN SB16-1**

REF. TCCA STC: SH14-45  
REF. FAA STC: SR03504NY  
REF. EASA STC: 10052022  
REF. DGCA INDIA LOA: 07-09/2011-AED  
REF. BRASIL STC: 2015S07-16  
REF. PHILLIPPINES LOA: C-16-0221  
REF. CHINA VSTC: VSTC0757  
REF. RUSSIA TC: CT316-A119

It has come to Dart's attention that in an emergency situation, the threads on the thru bolts that fasten the skidtube saddles to the DART Crosstubes and the threads on the MS21920-XX Clamps securing the steps and damper supports may prove to be a hazard when deploying the float system and may puncture the float bags.

The purpose of this Dart Service Bulletin is to inform operators with float systems installed in conjunction with DART D119-796-101/-201/-103/-203 Crosstubes that they must obtain and install the D119-796-015 Float Protection Kit per Dart Service Instruction DSI 9756 and reposition the MS21920-XX Clamps per Dart Service Instruction DSI 9753 as soon as possible.

Superseded

**APPROVED**

|            |   |   |              |
|------------|---|---|--------------|
| B          | ADD REFERENCE TO DSI 9753 (SEE PAR16-527) | ML  | 17.03.01     |
| A          | NEW ISSUE (SEE PAR16-538)                 | AJS   | 16.09.20     |
| REV.       | DESCRIPTION                               | BY  | DATE         |
| DESIGN     | AJS                                       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | ML  |   |              |
| CHECKED    | AJS                                       | DRAWING NO.   | REV. B       |
| MFG. APPR. | N/A                                       | SB16-1  | SHEET 1 OF 1 |
| APPROVED   | HS  | TITLE   | SCALE        |
| DE APPR.   | DS  | SERVICE BULLETIN  | NTS          |
| DATE       | 17.03.01                                  | COPYRIGHT © 2016 BY DART AEROSPACE LTD.<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-796 REV. E OR EARLIER AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-796 REV. 3 OR EARLIER

REF. TCCA STC: SH14-45  
REF. FAA STC: SR03504NY  
REF. EASA STC: 10052022  
REF. DGCA INDIA LOA: 07-09/2011-AED  
REF. BRASIL STC: 2015S07-16  
REF. PHILIPPINES LOA: C-16-0221  
REF. CHINA VSTC: VSTC0757  
REF. RUSSIA TC: CT316-A119

## 1.0 PURPOSE

It has come to DART Aerospace's attention that in an emergency water landing, the threads on the Thru Bolts that fasten the Skidtube Saddles to the DART Crosstubes may prove to be a hazard when deploying the Float System and may puncture the Float Bags.

The purpose of this DART Service Instruction is to provide instructions to replace the NAS1149C0532R & D3672-7 Washers on the inboard face of Skidtube Saddles with the D5449-1 Float Saddle Washer. The D5449-1 Float Saddle Washer is designed to protect the Float Bags from the threaded portion of the Thru Bolts.

## 2.0 CHANGE

2.1 Refer to section 3.1 of IIN-D119-796 Rev. E and earlier; rename Figures 3.1 and 3.2 to Figure 3.1a and 3.2a respectively. Insert Figure 3.1b and 3.2b from this service instruction.

2.2 Refer to section 3.1 of IIN-D119-796 Rev. E and earlier and modify as follows:

**IS:** 3.1.1 For installation on Dart D119-646-XXX Skidtubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.1a.

Customers installing Emergency Float Kits are required to procure the D119-796-015 Float Protection Kit. For customers installing Emergency Floats, substitute the inboard NAS1149C0532R & D3672-7 Washers with the D5449-1 Float Saddle Washer as shown in Figure 3.1b.

3.1.2 For installation with OEM skid tubes/saddles loosely install (qty 2) AN5C32A Bolts, (qty 6) AN5C7A Bolts, (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.2a.

Customers installing Emergency Float Kits are required to procure the D119-796-015 Float Protection Kit. For customers installing Emergency Floats, substitute the inboard NAS1149C0563R Washers with the D5449-1 Float Saddle Washer as shown in Figure 3.2b.

**WAS:** 3.1.1 For installation on Dart D119-646-XXX Skidtubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.1.

3.1.2 For installation with OEM skid tubes/saddles loosely install (qty 2) AN5C32A Bolts, (qty 6) AN5C7A Bolts, (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.2.

Continues on Sheet 2

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY:   
D. SHEPMERD (DE # 02)

DATE: 16.07.25  
CERT. NO.: SH14-45  
ISSUE NO.: 1

APPROVED

|            |                           |   |              |
|------------|---------------------------|---|--------------|
| A          | NEW ISSUE (SEE PAR16-538) | AJS   | 16.07.25     |
| REV.       | DESCRIPTION               | BY  | DATE         |
| DESIGN     | AJS                       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | JH                        |   |              |
| CHECKED    | NO                        | DRAWING NO.   | REV. A       |
| MFG. APPR. | N/A                       | DSI 9756  | SHEET 1 OF 3 |
| APPROVED   | HS                        | TITLE   | SCALE        |
| DE APPR.   | DS                        | FLOAT PROTECTION KIT  | NTS          |
| DATE       | 16.07.25                  | <small>COPYRIGHT © 2016 BY DART AEROSPACE LTD.<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br/>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br/>WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |              |

Continued from Sheet 1

**2.3** Refer to Chapter 32 of ICA-D119-796 Rev. 3 and earlier; rename Figures 32.4 and 32.5 to Figure 32.4a and 32.5a respectively. Insert Figure 32.4b and 32.5b from this service instruction.

**2.4** Refer to section 32.2.1 of ICA-D119-796 Rev. 3 and earlier and modify as follows:

**IS:** 32.2.1 For installation on Dart D119-646-XXX Skid tubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 32.4a.

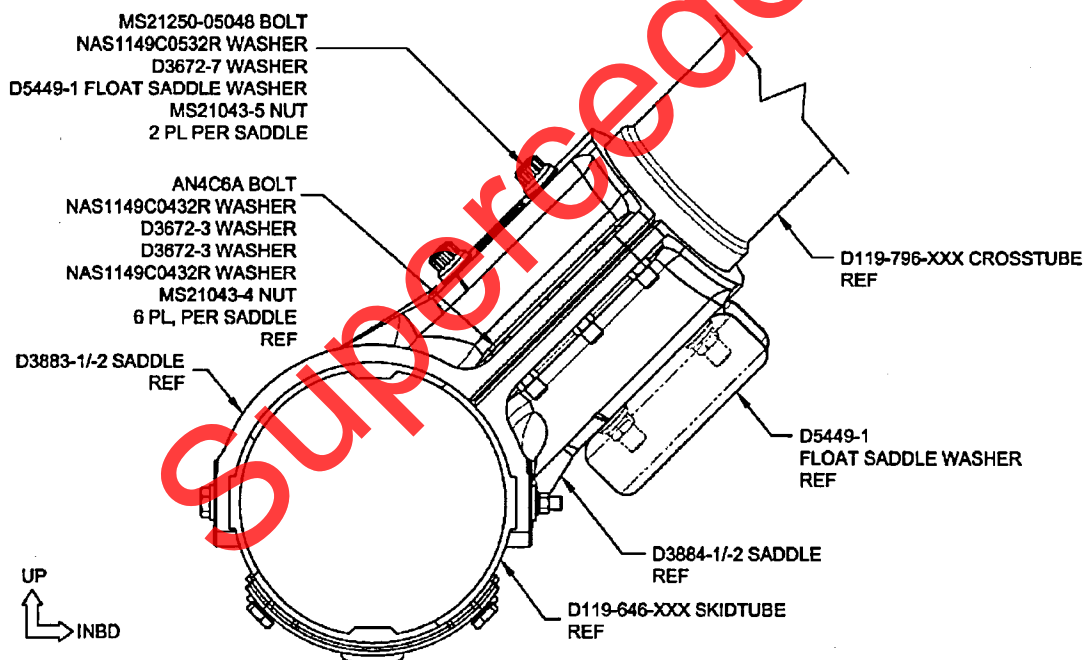
For customers installing Emergency Floats, substitute the inboard NAS1149C0532R & D3672-7 Washers with the D5449-1 Float Saddle Washer as shown in Figure 32.4b.

32.2.2 For installation with OEM skid tubes/saddles loosely install (qty 2) AN5C32A, (qty 6) AN5C7A Bolts and (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 32.5a.

For customers installing Emergency Floats, substitute the inboard NAS1149C05632R Washers with the D5449-1 Float Saddle Washer as shown in Figure 32.5b.

**WAS:** 32.2.1 For installation on Dart D119-646-XXX Skid tubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 32.4.

32.2.2 For installation with OEM skid tubes/saddles loosely install (qty 2) AN5C32A, (qty 6) AN5C7A Bolts and (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 32.5.



**Figure 3.1b/32.4b Installation of D119-796-XXX Crosstube to Dart D119-646-XXX Skid tubes**  
(For Installation With Emergency Float Kits)

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DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

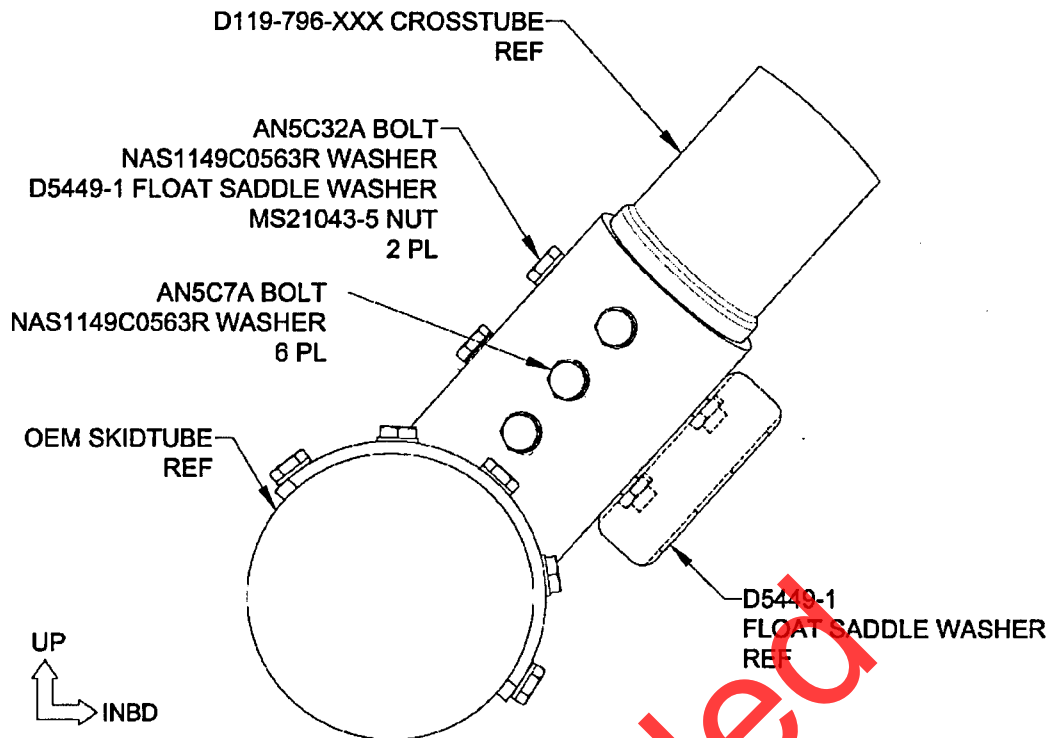
APPROVED

BY: *[Signature]*  
D. SHEPHERD (DE # 02)

DATE: 16.07.25  
CERT. NO.: SH14-45  
ISSUE NO.: 1

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| DRAWN      | JH       |   |              |
| CHECKED    | NO       | DRAWING NO.   | REV. A       |
| MFG. APPR. | N/A      | DSI 9756  | SHEET 2 OF 3 |
| APPROVED   | HS       | TITLE   | SCALE        |
| DE APPR.   | DS       | FLOAT PROTECTION KIT  | NTS          |
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**Figure 3.2b/32.5b Installation of D119-796-XXX Crosstube to OEM Skidtubes**  
(For Installation With Emergency Float Kits)

### 3.0 PARTS LIST

| Qty<br>-015 | Part Number  | Description          |
|-------------|--------------|----------------------|
| X           | D119-796-015 | FLOAT PROTECTION KIT |
| 4           | D5449-1      | FLOAT SADDLE WASHER  |

### 4.0 WEIGHT AND BALANCE

There is a negligible weight and balance change associated with this modification.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY: *[Signature]*  
D. SHEPHERD (DE # 02)

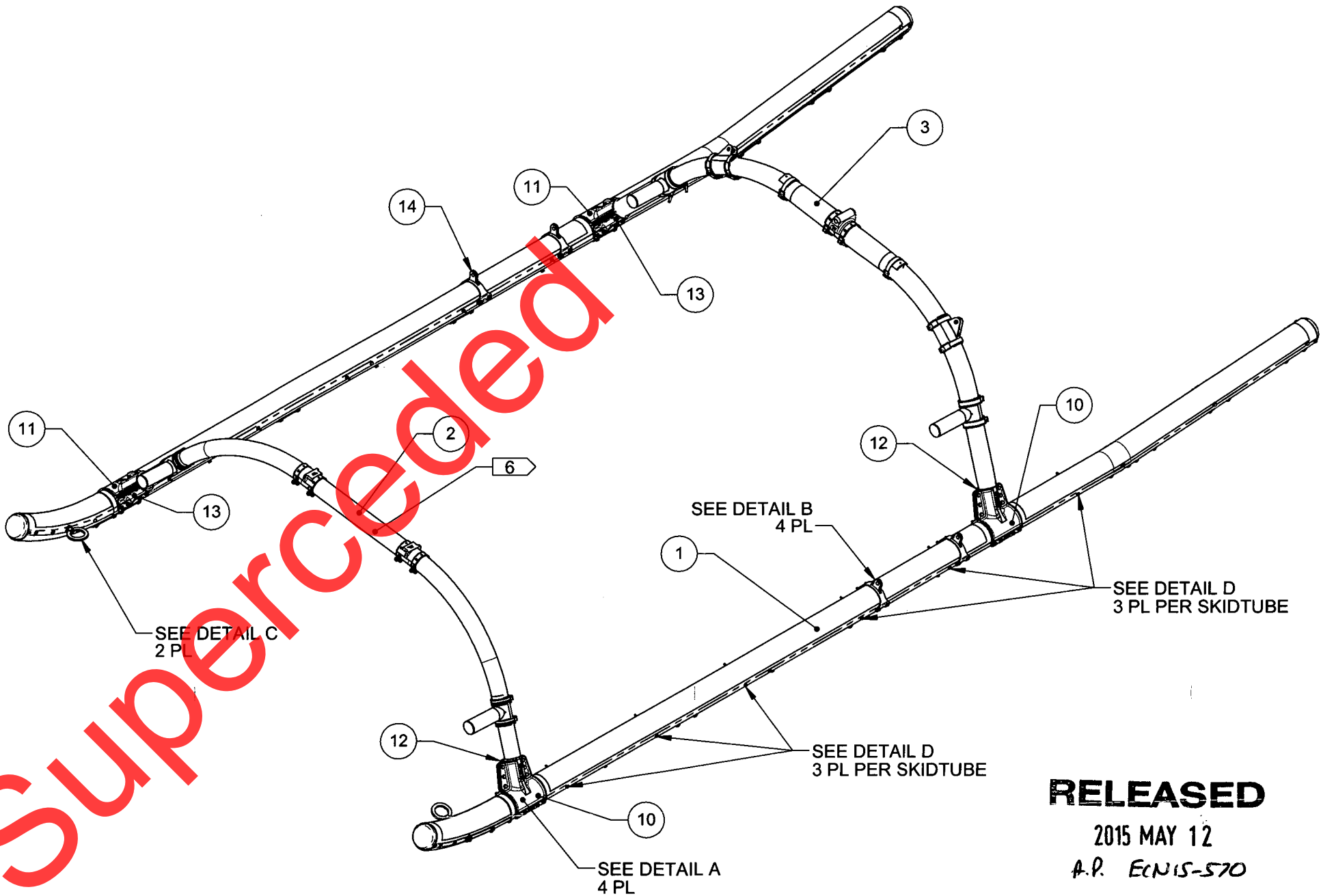
DATE: 16.07.25  
CERT. NO.: SH14-45  
ISSUE NO.: 1

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|------------|-----------------------|---|--------------|
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| DRAWN      | JH                    |   |              |
| CHECKED    | NO                    | DRAWING NO.   | REV. A       |
| MFG. APPR. | N/A                   | <b>DSI 9756</b>   | SHEET 3 OF 3 |
| APPROVED   | HS                    | TITLE   | SCALE        |
| DE APPR.   | DS <i>[Signature]</i> | <b>FLOAT PROTECTION KIT</b>   | NTS          |
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| ITEM | QTY<br>-031 | P/N           | DESCRIPTION                      |
|------|-------------|---------------|----------------------------------|
|      | X           | D119-796-031  | FLOAT GEAR WITH STD WEARPADS     |
| 1    | 2           | D119-646-043  | FLOAT SKIDTUBE WITH STD WEARPADS |
| 2    | 1           | D119-796-151  | XTUBE ASSY (AW119 MKII FWD)      |
| 3    | 1           | D119-796-251  | XTUBE ASSY (AW119 MKII AFT)      |
| 4    | 48          | D2652         | BUSHING                          |
| 5    | 2           | D3407-041     | TOW RING                         |
| 6    | 4           | D3417-5       | WASHER                           |
| 7    | 2           | D3456-1       | WASHER                           |
| 8    | 48          | D3672-3       | PHENOLIC WASHER                  |
| 9    | 48          | D3672-7       | PHENOLIC WASHER                  |
| 10   | 2           | D3883-1       | SADDLE, OUTBOARD LH              |
| 11   | 2           | D3883-2       | SADDLE, OUTBOARD RH              |
| 12   | 2           | D3884-1       | SADDLE, INBOARD LH               |
| 13   | 2           | D3884-2       | SADDLE, INBOARD RH               |
| 14   | 4           | D3886-041     | LUG ASSEMBLY                     |
| 15   | 12          | AN3C45A       | BOLT                             |
| 16   | 8           | AN3C46A       | BOLT                             |
| 17   | 16          | AN3C50A       | BOLT                             |
| 18   | 24          | AN4C6A        | BOLT                             |
| 19   | 36          | MS21043-3     | NUT, SELF-LOCKING                |
| 20   | 26          | MS21043-4     | NUT, SELF-LOCKING                |
| 21   | 8           | MS21043-5     | NUT, SELF-LOCKING                |
| 22   | 8           | MS21250-05048 | BOLT                             |
| 23   | 48          | NAS1149C0332R | WASHER                           |
| 24   | 48          | NAS1149C0432R | WASHER                           |
| 25   | 16          | NAS1149C0532R | WASHER                           |

Qty(4) D5449-1 are missing from BoM.



D119-796-031 FLOAT GEAR WITH STD WEARPADS

RELEASED  
2015 MAY 12  
A.P. ECN15-570

- NOTES:  
1) MATERIAL: N/A  
2) FINISH: NONE  
3) TOLERANCES: N/A  
4) UNITS: N/A  
5) BREAK SHARP EDGES: N/A  
6) IDENTIFICATION: INSTALL D2729-4 RED DECAL IN LOCATION SHOWN  
7) WEIGHT: 135.5 LBS

|          |            |             |  |          |
|----------|------------|-------------|--|----------|
| APPROVED | A          | NEW ISSUE   | AP   | 15.04.01 |
|          | REV.       | DESCRIPTION | BY   | DATE     |
|          | DESIGN     | AP          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA  |          |
|          | DRAWN      | AP          |  |          |
|          | CHECKED    | CP          | DRAWING NO. REV. A   |          |
|          | MFG. APPR. | DD          | D119-796-031 SHEET 1 OF 5  |          |
|          | APPROVED   | HS          | TITLE SCALE  |          |
|          | DE APPR.   | DS          | FLOAT GEAR WITH STD WEARPADS NTS   |          |
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D

C

B

A

MS21250-05048 BOLT  
NAS1149C0532R WASHER  
D3672-7 WASHER  
2 PL  
10

D3883-1 SADDLE (LHS)  
D3883-2 SADDLE (RHS)

AN3C50A BOLT  
D3672-7 WASHER  
D2652 BUSHING  
4 PL  
10

D3884-1 SADDLE (LHS)  
D3884-2 SADDLE (RHS)

D3672-7 WASHER  
NAS1149C0532R WASHER  
MS21043-5 NUT  
2 PL  
10

D2652 BUSHING  
D3672-7 WASHER  
NAS1149C0332R WASHER  
MS21043-3 NUT  
4 PL  
10

Qty(1) D5449-1 is  
missing from view.

**DETAIL A**  
4 PL



AN4C6A BOLT  
NAS1149C0432R WASHER  
D3672-3 WASHER (2)  
NAS1149C0432R WASHER  
MS21043-4 NUT  
6 PL  
9

D3883-1 SADDLE (LHS)  
D3883-2 SADDLE (RHS)  
REF

**DETAIL A**  
4 PL



**RELEASED**

A.P. 2015 MAY 12

**NOTES:**

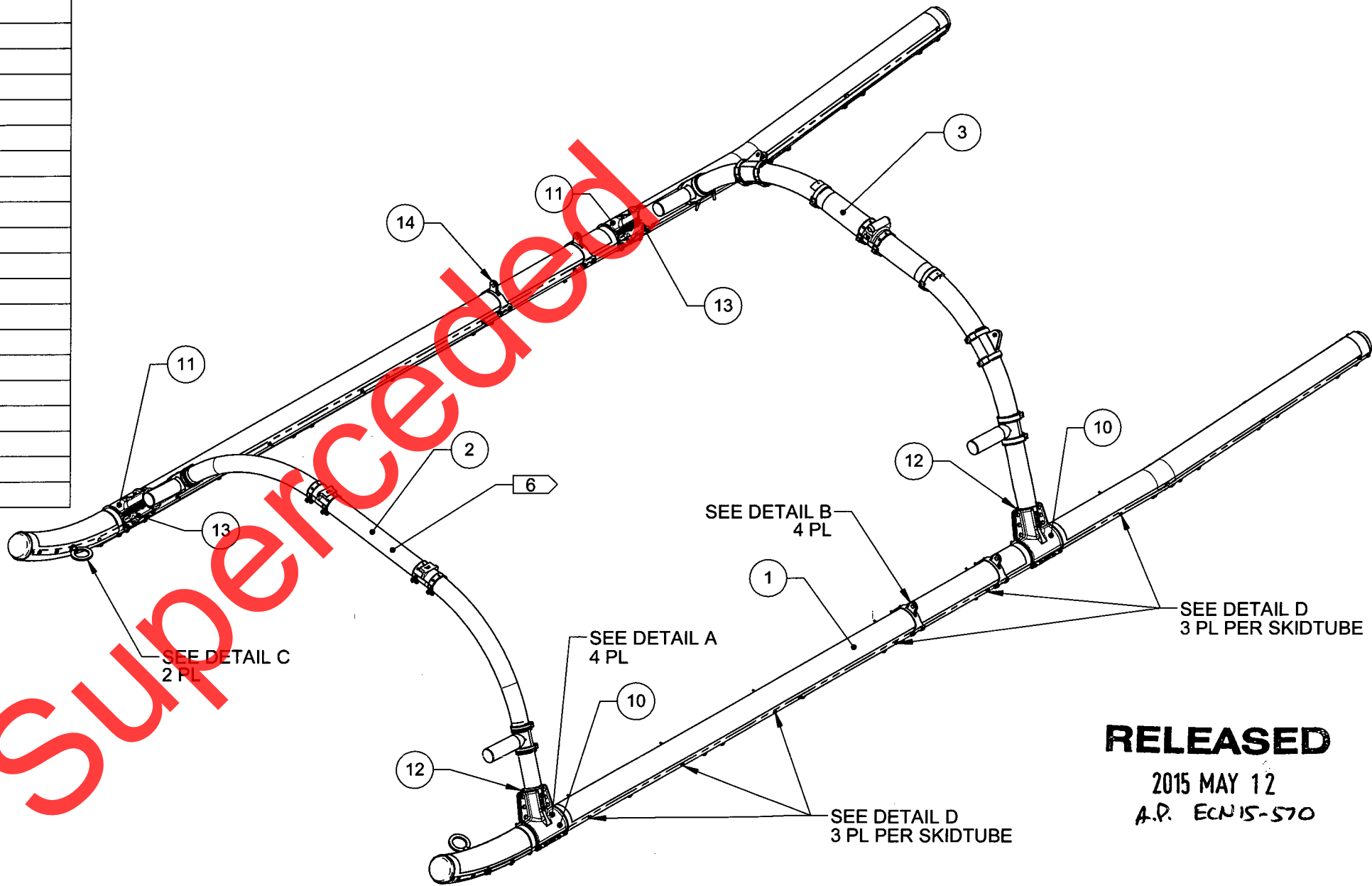
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: N/A
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) APPLY A CONTINUOUS BEAD OF SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT IN THE LOCATIONS SHOWN INCLUDING THE FOLLOWING:
  - A) ALONG SADDLE/CROSSTUBE INTERFACE
  - B) BETWEEN THE SADDLE FLANGES
  - C) ALONG SADDLE/SKIDTUBE INTERFACE
- 9) LIGHTLY TIGHTEN ALL BOLTS IN THE NUMERICAL ORDER SPECIFIED ON SHEET 3, THEN TIGHTEN TO SPECIFIED TORQUE IN TABLE 1.
- 10) INSTALL WET WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) ALL NUTS TO BE INSTALLED ON THE INBOARD SIDE

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| DRAWN      | AP       |  |              |
| CHECKED    | CP       | DRAWING NO.  | REV. A       |
| MFG. APPR. | DD       | <b>D119-796-031</b>  | SHEET 2 OF 5 |
| APPROVED   | HS       | TITLE  | SCALE        |
| DE APPR.   | DS       | <b>FLOAT GEAR WITH STD WEARPADS</b>  | NTS          |
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| ITEM | QTY<br>-033 | P/N           | DESCRIPTION                               |
|------|-------------|---------------|---|
|      | X           | D119-796-033  | FLOAT GEAR WITH REINFORCED WEARPLATES     |
| 1    | 2           | D119-646-143  | FLOAT SKIDTUBE WITH REINFORCED WEARPLATES |
| 2    | 1           | D119-796-151  | XTUBE ASSY (AW119 MKII FWD)               |
| 3    | 1           | D119-796-251  | XTUBE ASSY (AW119 MKII AFT)               |
| 4    | 48          | D2652         | BUSHING                                   |
| 5    | 2           | D3407-041     | TOW RING                                  |
| 6    | 4           | D3417-5       | WASHER                                    |
| 7    | 2           | D3456-1       | WASHER                                    |
| 8    | 48          | D3672-3       | PHENOLIC WASHER                           |
| 9    | 48          | D3672-7       | PHENOLIC WASHER                           |
| 10   | 2           | D3883-1       | SADDLE, OUTBOARD LH                       |
| 11   | 2           | D3883-2       | SADDLE, OUTBOARD RH                       |
| 12   | 2           | D3884-1       | SADDLE, INBOARD LH                        |
| 13   | 2           | D3884-2       | SADDLE, INBOARD RH                        |
| 14   | 4           | D3886-041     | LUG ASSEMBLY                              |
| 15   | 12          | AN3C45A       | BOLT                                      |
| 16   | 8           | AN3C46A       | BOLT                                      |
| 17   | 16          | AN3C50A       | BOLT                                      |
| 18   | 24          | AN4C6A        | BOLT                                      |
| 19   | 36          | MS21043-3     | NUT, SELF-LOCKING                         |
| 20   | 26          | MS21043-4     | NUT, SELF-LOCKING                         |
| 21   | 8           | MS21043-5     | NUT, SELF-LOCKING                         |
| 22   | 8           | MS21250-05048 | BOLT                                      |
| 23   | 48          | NAS1149C0332R | WASHER                                    |
| 24   | 48          | NAS1149C0432R | WASHER                                    |
| 25   | 16          | NAS1149C0532R | WASHER                                    |

Qty(4) D5449-1 are missing from BoM.



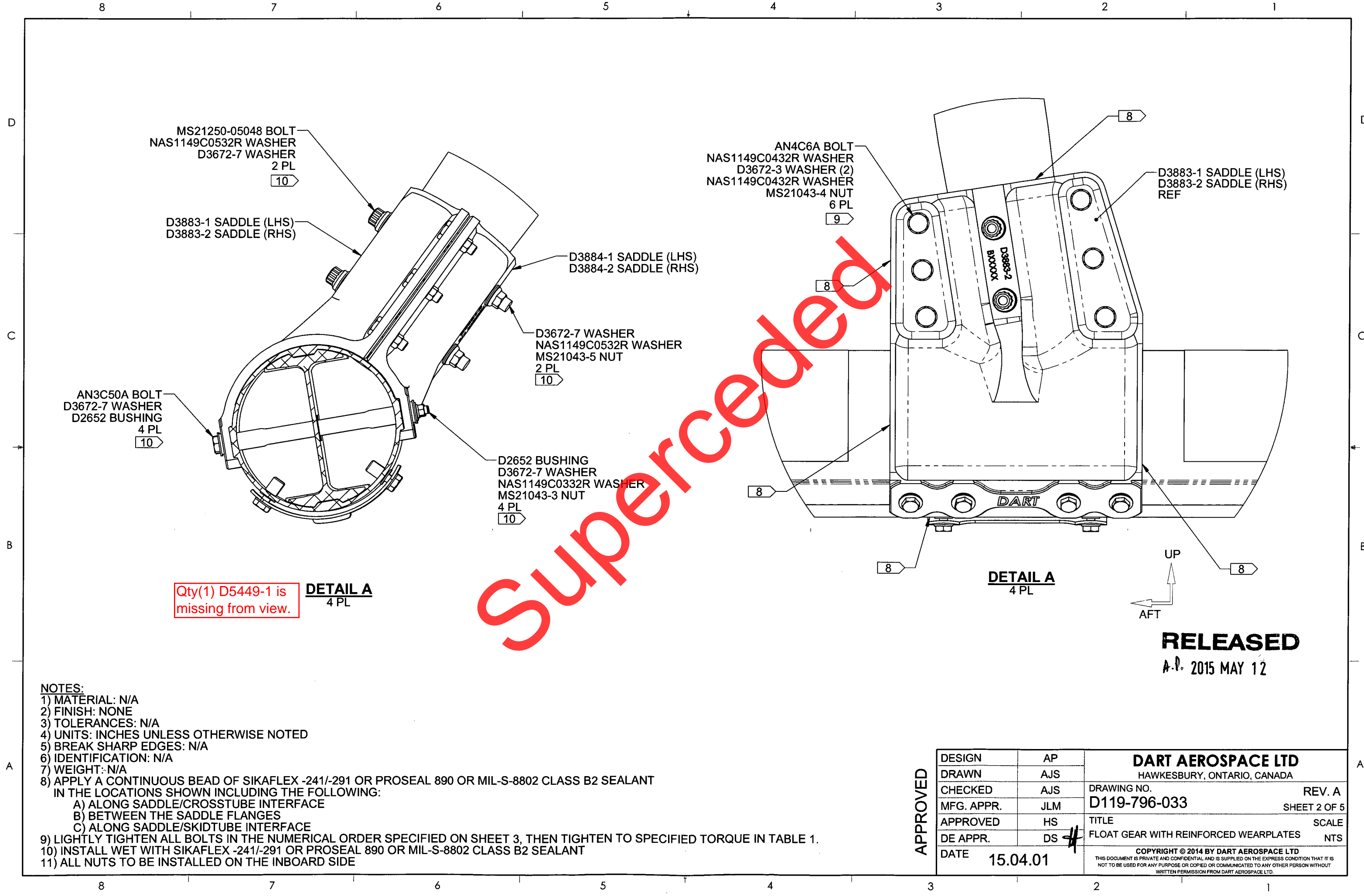
D119-796-033 FLOAT GEAR WITH REINFORCED WEARPLATES

- NOTES:
- 1) MATERIAL: N/A
  - 2) FINISH: NONE
  - 3) TOLERANCES: N/A
  - 4) UNITS: N/A
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: INSTALL D2729-4 RED DECAL IN LOCATION SHOWN
  - 7) WEIGHT: 150.3 LBS

APPROVED

|            |             |  |              |
|------------|-------------|--|--------------|
| A          | NEW ISSUE   | AP   | 15.04.01     |
| REV.       | DESCRIPTION | BY   | DATE         |
| DESIGN     | AP          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | AJS         |  |              |
| CHECKED    | AJS         | DRAWING NO.  | REV. A       |
| MFG. APPR. | JLM         | D119-796-033   | SHEET 1 OF 5 |
| APPROVED   | HS          | TITLE  | SCALE        |
| DE APPR.   | DS          | FLOAT GEAR WITH REINFORCED WEARPLATES  | NTS          |
| DATE       | 15.04.01    | COPYRIGHT © 2014 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |





Qty(1) D5449-1 is  
missing from view.

**DETAIL A**  
4 PL

**NOTES:**

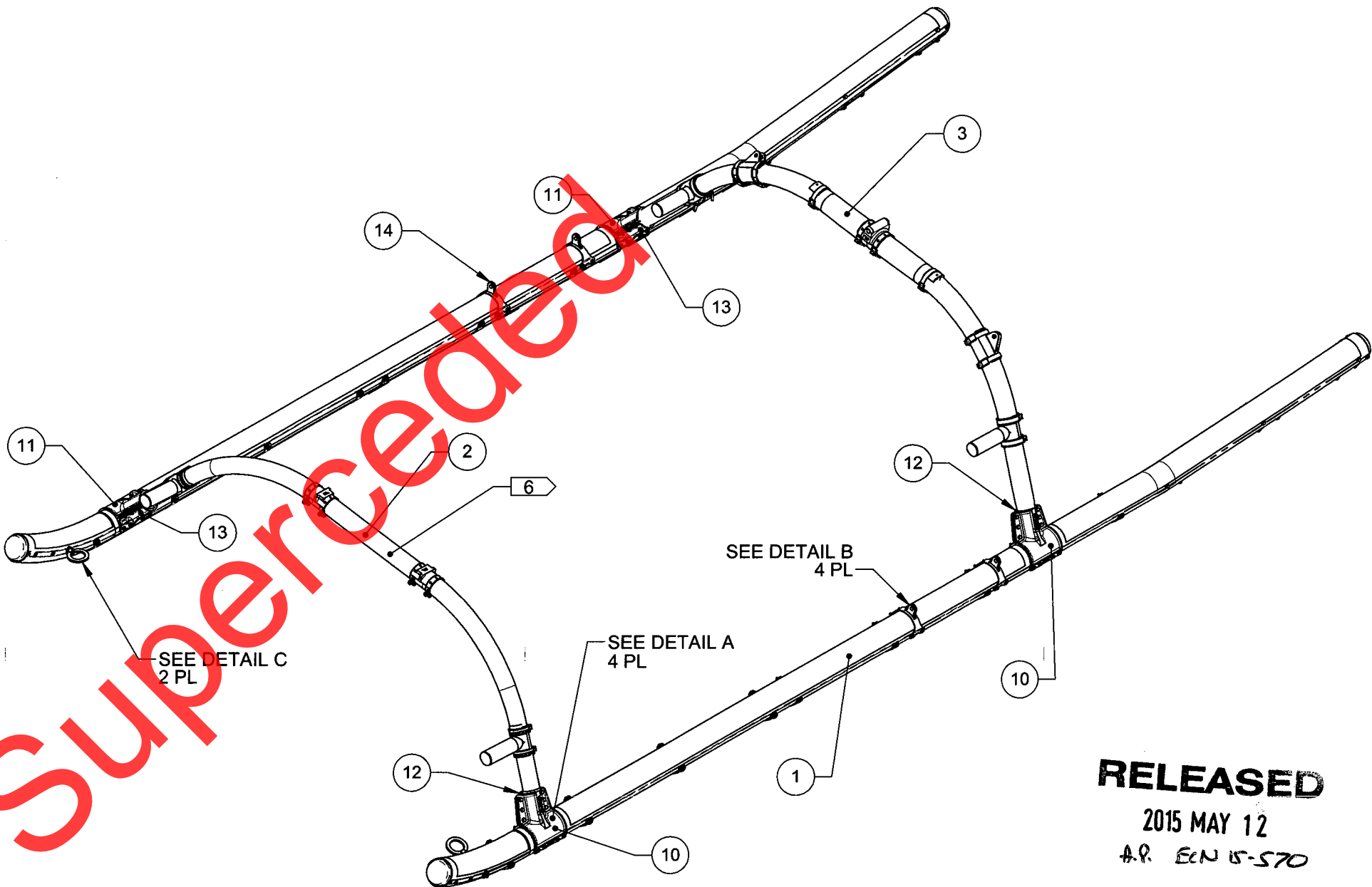
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: N/A
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) APPLY A CONTINUOUS BEAD OF SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT IN THE LOCATIONS SHOWN INCLUDING THE FOLLOWING:
  - A) ALONG SADDLE/CROSSTUBE INTERFACE
  - B) BETWEEN THE SADDLE FLANGES
  - C) ALONG SADDLE/SKIDTUBE INTERFACE
- 9) LIGHTLY TIGHTEN ALL BOLTS IN THE NUMERICAL ORDER SPECIFIED ON SHEET 3, THEN TIGHTEN TO SPECIFIED TORQUE IN TABLE 1.
- 10) INSTALL WET WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) ALL NUTS TO BE INSTALLED ON THE INBOARD SIDE

APPROVED

|  |          |   |              |
|--|----------|---|--------------|
| DESIGN   | AP       | <b>DART AEROSPACE LTD</b>                     |              |
| DRAWN  | AJS      | HAWKESBURY, ONTARIO, CANADA                   |              |
| CHECKED  | AJS      | DRAWING NO.                                   | REV. A       |
| MFG. APPR.   | JLM      | <b>D119-796-033</b>                           | SHEET 2 OF 5 |
| APPROVED   | HS       | TITLE   | SCALE        |
| DE APPR.   | DS       | FLOAT GEAR WITH REINFORCED WEARPLATES         | NTS          |
| DATE   | 15.04.01 | <b>COPYRIGHT © 2014 BY DART AEROSPACE LTD</b> |              |
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| ITEM | QTY<br>-035 | P/N           | DESCRIPTION                             |
|------|-------------|---------------|---|
|      | X           | D119-796-035  | FLOAT GEAR WITH TRAINING WEARPLATES     |
| 1    | 2           | D119-646-243  | FLOAT SKIDTUBE WITH TRAINING WEARPLATES |
| 2    | 1           | D119-796-151  | XTUBE ASSY (AW119 MKII FWD)             |
| 3    | 1           | D119-796-251  | XTUBE ASSY (AW119 MKII AFT)             |
| 4    | 48          | D2652         | BUSHING                                 |
| 5    | 2           | D3407-041     | TOW RING                                |
| 6    | 4           | D3417-5       | WASHER                                  |
| 7    | 2           | D3456-1       | WASHER                                  |
| 8    | 48          | D3672-3       | PHENOLIC WASHER                         |
| 9    | 48          | D3672-7       | PHENOLIC WASHER                         |
| 10   | 2           | D3883-1       | SADDLE, OUTBOARD LH                     |
| 11   | 2           | D3883-2       | SADDLE, OUTBOARD RH                     |
| 12   | 2           | D3884-1       | SADDLE, INBOARD LH                      |
| 13   | 2           | D3884-2       | SADDLE, INBOARD RH                      |
| 14   | 4           | D3886-041     | LUG ASSEMBLY                            |
| 15   | 8           | AN3C46A       | BOLT                                    |
| 16   | 16          | AN3C50A       | BOLT                                    |
| 17   | 24          | AN4C6A        | BOLT                                    |
| 18   | 24          | MS21043-3     | NUT, SELF-LOCKING                       |
| 19   | 26          | MS21043-4     | NUT, SELF-LOCKING                       |
| 20   | 8           | MS21043-5     | NUT, SELF-LOCKING                       |
| 21   | 8           | MS21250-05048 | BOLT                                    |
| 22   | 24          | NAS1149C0332R | WASHER                                  |
| 23   | 48          | NAS1149C0432R | WASHER                                  |
| 24   | 16          | NAS1149C0532R | WASHER                                  |

Qty(4) D5449-1 are  
missing from BoM.

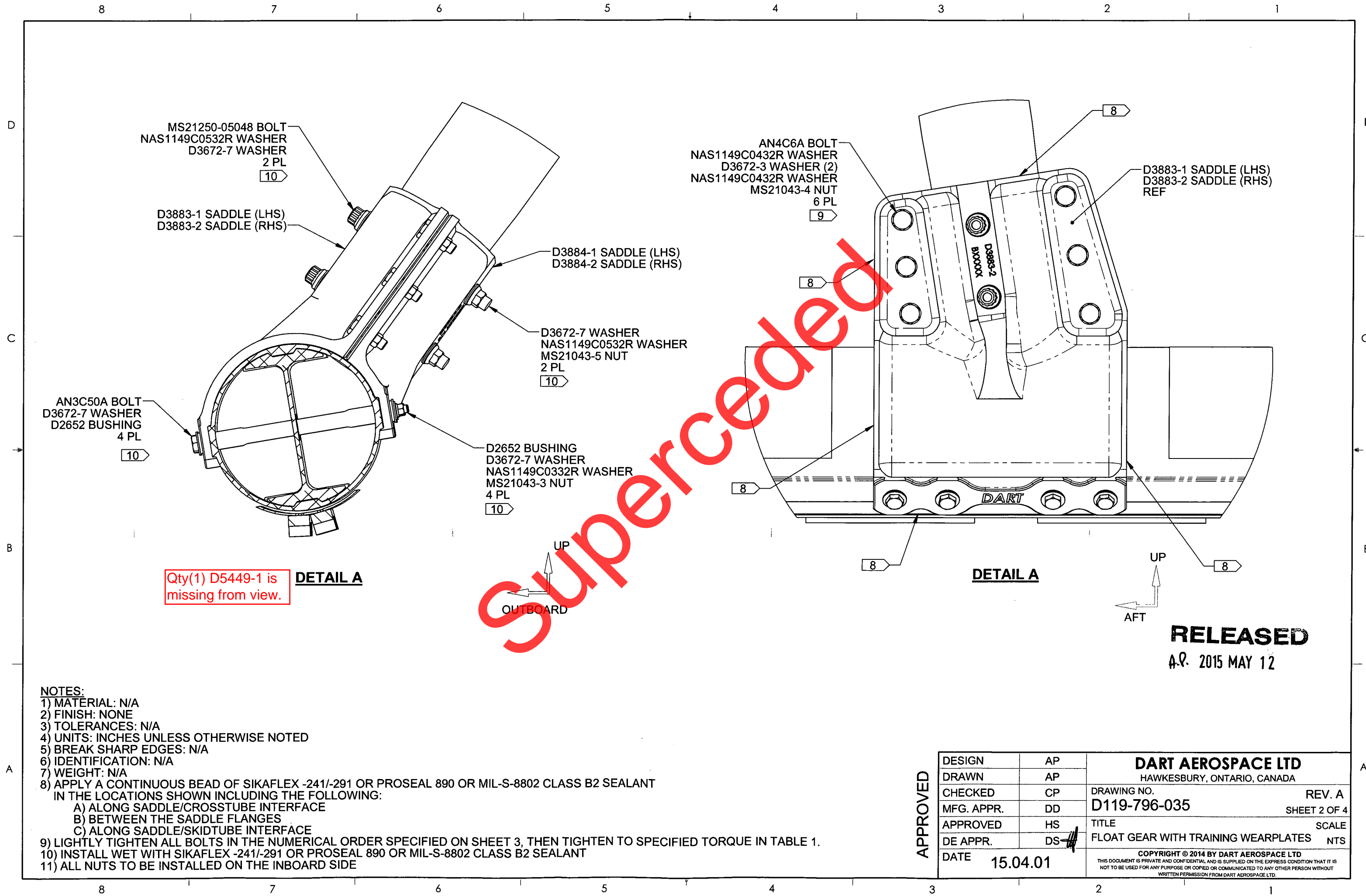


D119-796-035 FLOAT GEAR WITH TRAINING WEARPLATE

RELEASED  
2015 MAY 12  
A.P. EEN 15-570

- NOTES:  
1) MATERIAL: N/A  
2) FINISH: NONE  
3) TOLERANCES: N/A  
4) UNITS: N/A  
5) BREAK SHARP EDGES: N/A  
6) IDENTIFICATION: INSTALL D2729-4 RED DECAL IN LOCATION SHOWN  
7) WEIGHT: 160.7 LBS

|          |            |             |  |              |
|----------|------------|-------------|--|--------------|
| APPROVED | A          | NEW ISSUE   | AP   | 15.04.01     |
|          | REV.       | DESCRIPTION | BY   | DATE         |
|          | DESIGN     | AP          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA  |              |
|          | DRAWN      | AP          |  |              |
|          | CHECKED    | CP          | DRAWING NO.  | REV. A       |
|          | MFG. APPR. | DD          | D119-796-035   | SHEET 1 OF 4 |
|          | APPROVED   | HS          | TITLE  | SCALE        |
|          | DE APPR.   | DS          | FLOAT GEAR WITH TRAINING WEARPLATES  | NTS          |
|          | DATE       | 15.04.01    | COPYRIGHT © 2014 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |



Qty(1) D5449-1 is missing from view.

DETAIL A

DETAIL A

RELEASED  
A.R. 2015 MAY 12

- NOTES:
- 1) MATERIAL: N/A
  - 2) FINISH: NONE
  - 3) TOLERANCES: N/A
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: N/A
  - 8) APPLY A CONTINUOUS BEAD OF SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT IN THE LOCATIONS SHOWN INCLUDING THE FOLLOWING:
    - A) ALONG SADDLE/CROSSTUBE INTERFACE
    - B) BETWEEN THE SADDLE FLANGES
    - C) ALONG SADDLE/SKIDTUBE INTERFACE
  - 9) LIGHTLY TIGHTEN ALL BOLTS IN THE NUMERICAL ORDER SPECIFIED ON SHEET 3, THEN TIGHTEN TO SPECIFIED TORQUE IN TABLE 1.
  - 10) INSTALL WET WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
  - 11) ALL NUTS TO BE INSTALLED ON THE INBOARD SIDE

APPROVED

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | AP       | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | AP       |  |              |
| CHECKED    | CP       | DRAWING NO.  | REV. A       |
| MFG. APPR. | DD       | D119-796-035   | SHEET 2 OF 4 |
| APPROVED   | HS       | TITLE  | SCALE        |
| DE APPR.   | DS       | FLOAT GEAR WITH TRAINING WEARPLATES  | NTS          |
| DATE       | 15.04.01 | COPYRIGHT © 2014 BY DART AEROSPACE LTD   |              |
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| 8           |             |             |             | 7           |             |             |             | 6           |             |             |             | 5           |             |             |               | 4   |  |  |  | 3 |  |  |  | 2 |  |  |  | 1 |  |  |  |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---|--|--|--|---|--|--|--|---|--|--|--|---|--|--|--|
| QTY<br>-011 | QTY<br>-013 | QTY<br>-015 | QTY<br>-021 | QTY<br>-023 | QTY<br>-025 | QTY<br>-111 | QTY<br>-113 | QTY<br>-115 | QTY<br>-121 | QTY<br>-123 | QTY<br>-125 | QTY<br>-131 | QTY<br>-133 | QTY<br>-135 | P/N           | DESCRIPTION   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| X           |             |             |             |             |             |             |             |             |             |             |             |             |             |             | D119-1014-011 | LANDING GEAR KIT, STD WEARPADS WITH PEG STEPS                               |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             | X           |             |             |             |             |             |             |             |             |             |             |             |             |             | D119-1014-013 | LANDING GEAR KIT, REINFORCED WEARPLATES WITH PEG STEPS                      |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             | X           |             |             |             |             |             |             |             |             |             |             |             |             | D119-1014-015 | LANDING GEAR KIT, TRAINING WEARPLATES WITH PEG STEPS                        |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             | X           |             |             |             |             |             |             |             |             |             |             |             | D119-1014-021 | LANDING GEAR KIT, FLOAT COMPATIBLE, STD WEARPADS WITH PEG STEPS             |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             | X           |             |             |             |             |             |             |             |             |             |             | D119-1014-023 | LANDING GEAR KIT, FLOAT COMPATIBLE, REINFORCED WEARPLATES WITH PEG STEPS    |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             | X           |             |             |             |             |             |             |             |             |             | D119-1014-025 | LANDING GEAR KIT, FLOAT COMPATIBLE, TRAINING WEARPLATES WITH PEG STEPS      |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             | X           |             |             |             |             |             |             |             |             | D119-1014-111 | LANDING GEAR KIT, STD WEARPADS WITHOUT PEG STEPS                            |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             | X           |             |             |             |             |             |             |             | D119-1014-113 | LANDING GEAR KIT, REINFORCED WEARPLATES WITHOUT PEG STEPS                   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             | X           |             |             |             |             |             |             | D119-1014-115 | LANDING GEAR KIT, TRAINING WEARPLATES WITHOUT PEG STEPS                     |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             | X           |             |             |             |             |             | D119-1014-121 | LANDING GEAR KIT, FLOAT COMPATIBLE, STD WEARPADS WITHOUT PEG STEPS          |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             | X           |             |             |             |             | D119-1014-123 | LANDING GEAR KIT, FLOAT COMPATIBLE, REINFORCED WEARPLATES WITHOUT PEG STEPS |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             | X           |             |             |             | D119-1014-125 | LANDING GEAR KIT, FLOAT COMPATIBLE, TRAINING WEARPLATES WITHOUT PEG STEPS   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             |             | X           |             |             | D119-1014-131 | LANDING GEAR KIT, STD WEARPADS WITH LONG STEPS                              |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             |             |             | X           |             | D119-1014-133 | LANDING GEAR KIT, REINFORCED WEARPLATES WITH LONG STEPS                     |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             |             |             |             | X           | D119-1014-135 | LANDING GEAR KIT, TRAINING WEARPLATES WITH LONG STEPS                       |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           |             |             | D119-646-011  | STD SKIDTUBE WITH WEARPADS, LH  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           |             |             | D119-646-012  | STD SKIDTUBE WITH WEARPADS, RH  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | D119-646-013  | FLOAT SKIDTUBE WITH WEARPADS, LH  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | D119-646-014  | FLOAT SKIDTUBE WITH WEARPADS, RH  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           |             | D119-646-111  | STD SKIDTUBE WITH FULL LENGTH WEARPLATES, LH                                |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           |             | D119-646-112  | STD SKIDTUBE WITH FULL LENGTH WEARPLATES, RH                                |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             | 1           |             |             |             |             |             | 1           |             |             |             |             | D119-646-113  | FLOAT SKIDTUBE WITH FULL LENGTH WEARPLATES, LH                              |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             | 1           |             |             |             |             |             | 1           |             |             |             |             | D119-646-114  | FLOAT SKIDTUBE WITH FULL LENGTH WEARPLATES, RH                              |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           | D119-646-211  | STD SKIDTUBE WITH TRAINING WEARPLATES, LH                                   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             | 1           |             |             |             |             |             | 1           |             |             |             |             |             | 1           | D119-646-212  | STD SKIDTUBE WITH TRAINING WEARPLATES, RH                                   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             | 1           |             |             |             |             |             | 1           |             |             |             | D119-646-213  | FLOAT SKIDTUBE WITH TRAINING WEARPLATES, LH                                 |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             | 1           |             |             |             |             |             | 1           |             |             |             | D119-646-214  | FLOAT SKIDTUBE WITH TRAINING WEARPLATES, RH                                 |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             |             | 1           | 1           | 1           | D119-675-111  | HELI-ACCESS STEP, LH - MKII INSTL   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             |             |             |             |             |             |             | 1           | 1           | 1           | D119-675-112  | HELI-ACCESS STEP, RH - MKII INSTL   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| 1           | 1           | 1           | 1           | 1           | 1           |             |             |             |             |             |             |             |             |             | D119-796-101  | FWD CROSSTUBE WITH PEG STEPS  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| 1           | 1           | 1           | 1           | 1           | 1           |             |             |             |             |             |             |             |             |             | D119-796-201  | AFT CROSSTUBE WITH PEG STEPS  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             | 1           | 1           | 1           | 1           | 1           | 1           | 1           | 1           | 1           | D119-796-103  | FWD CROSSTUBE WITHOUT PEG STEPS   |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|             |             |             |             |             |             | 1           | 1           | 1           | 1           | 1           | 1           | 1           | 1           | 1           | D119-796-203  | AFT CROSSTUBES WITHOUT PEG STEPS  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |

Qty(1) D119-796-015 missing from BoM for  
D119-796-021/-023/-025/-121/-123/-125 Kits

**NOTES:**  
1) MATERIAL: N/A  
2) FINISH: N/A  
3) TOLERANCES: N/A  
4) UNITS: N/A  
5) BREAK SHARP EDGES: N/A  
6) IDENTIFICATION: N/A  
7) WEIGHT: N/A

|            |             |  |              |
|------------|-------------|--|--------------|
| A          | NEW ISSUE   | AP   | 15.06.02     |
| REV.       | DESCRIPTION | BY   | DATE         |
| DESIGN     | AP          | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |              |
| DRAWN      | AP          |  |              |
| CHECKED    | AJS         | DRAWING NO.  | REV. A       |
| MFG. APPR. | JLM         | <b>D119-1014</b>   | SHEET 1 OF 1 |
| APPROVED   | WM          | TITLE  | SCALE        |
| DE APPR.   | DS          | AW119 MKII COMPLETE LANDING GEAR KITS  | NTS          |
| DATE       | 15.06.02    | COPYRIGHT © 2015 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT |              |